**Reading log 1 - Using Mathematical Models to Study the Dispersion of Exotic Marine Species**

Before reading  
\*Read the tilte and list 10 words you think you might find in the text.

I think that in the text will be the words: water, marine, fish, mathematics, species, exotics, models, dispersion, beach, sand.

\*How can you use math applied to biology. Mention one thing you can think of.

Math can be applied in biology probabilistic regulatory networks. To model the dynamic processes of a living organism have been used in many mathematical models, including continuous models that use differential equations and statistical models.

\*What do you know about jelly fish? What kind of fish is it? If you don't know, find out, cut and paste an image of this fish. Please acknowledge the source.

I don´t know what the jellyfish is or I don´t remember, I remember that I heard about it.

**Jellyfish** (also known as **jellies** or **sea jellies**) are free-swimming members of the phylum [Cnidaria](http://en.wikipedia.org/wiki/Cnidaria). **Jellyfish** have several different morphologies that represent several different cnidarian classes including the [Scyphozoa](http://en.wikipedia.org/wiki/Scyphozoa) (over 200 species), [Staurozoa](http://en.wikipedia.org/wiki/Staurozoa) (about 50 species), [Cubozoa](http://en.wikipedia.org/wiki/Cubozoa) (about 20 species), and [Hydrozoa](http://en.wikipedia.org/wiki/Hydrozoa) (about 1000–1500 species that make **jellyfish** and many more that do not).

Source: <http://webcache.googleusercontent.com/search?q=cache:0tJHvCqYZroJ:en.wikipedia.org/wiki/Jellyfish+type+of+fish+is+the+jellyfish&cd=1&hl=es&ct=clnk&gl=ve>

[](http://en.wikipedia.org/wiki/File:Chrysaora_quinquecirrha.JPG)

\*What is dispersion? If you don't know, find out, please acknowledge the source.

I think that dispersion may be referring to many things, I searched about it and I founded this:

1 Dispersion is **a form of mixing,** and the act of distributing one substance in another.

2 Dispersion also is **a system** containing a dispersed substance in a medium (e.g., colloidal dispersions).

Source: http://www.ptl.ethz.ch/education/Mass\_Transfer/Lecture\_6.pdf  
  
While Reading and After Reading  
1. Click on the following link so that you can read the article.  
<http://www.maths.unsw.edu.au/school/articles/jellyfish.html>

2. Try to locate the words you though you were going to find in the text (question 1 before reading) List the words you found

The words are: Exotic, marine, species, water, mathematics, models, dispersion.

3. Find what the following referents in bold letters refer to in the text:

* The species of Jellyfish studied are known as Aurelia and **these** are found over much of the world’s temperate oceans.

These refer to the species of Jellyfish studied known as Aurelia.

* By simulating the movement of the jellyfish over a 7,000-year period the study provides strong evidence that the world-wide dispersal post-dates European global shipping and trade, **which** began almost 500 years ago.

Which refer to European global shipping and trade.

* Ships take in water for stability before a voyage and, despite preventative measures such as mid-ocean exchange/ flushing, **this 'foreign' water** and **its contents** can find its way into bays and harbours at the ships destination.

This ‘Foreign’ water and Its contents refer to the water taken for stability before a voyage.

* The computer model could answer similar questions about the migration and introduction of any suspected non-native marine creatures, according to **its** developers Professor Matthew England and Alex Sen Gupta.

Its refer to the computer model.

Now we have a tool that can include data on currents, geography and the biology of an organism to help separate natural dispersal **from that which happens** through shipping and trade

From that which happens refer to dispersal which happens through shipping and trade.

4. What is happening with the fish?

Jellyfish have been migrating from about 500 years and are spreading to other areas by global shipping and trade.

5. What explanation scientists had given?

Scientists say that the jellyfish are migrating due to global shipping and trade that pass through the origin of the jellyfish. It isn’t a natural migration; it is produced by the people.

6. What did mathematicians find out? What does the formula explain?

Mathematicians found out that the jellyfish started to migrate from about 500 years ago by global shipping and trade. The formula uses the factors of time, speed and coast to find out information about where the jellyfish have migrated after some time.